

## ABSTRACT OF THE DISCLOSURE

A phase information restoring method improves estimation accuracy of phase by using radiation with energy of high transmittance when constructing a radiation image of a living organism such as a human body by the phase-contrast method. The phase information restoring method includes the steps of: (a) obtaining plural sets of detection data respectively representing plural kinds of radiation image information on a detection plane at a predetermined distance from an object by using plural radiations having different wavelengths with energy from 16 keV to 30 keV to detect intensity of the plural radiations transmitted through the object on the detection plane; and (b) restoring phase information on the radiations transmitted through the object on the basis of the plural sets of detection data so as to obtain phase data.